

REMARKS

Claims 1-3, 6-23, and 25-74 are pending. Claims 4, 5, and 24 have been canceled. Claims 1, 6-9, 25-27, 39, 42, 45, 61, 63, and 65 are amended. Claims 72-74 have been added. Claims 24-68, 70, and 71 have been withdrawn from consideration.

Note that in the amendment to claim 1 in the “Amendment And Response To Restriction Requirement” dated September 30, 2005, in line 1, “70” was changed to --80--. While “70” was double bracketed, the underlining for “80” was inadvertently not included.

Support for the amendments to claims 1 and 39 can be found in the specification, for example, on page 1, lines 27-33, or is inherent from original claims 1 and 39, respectively. Support for the amendments to claims 6-9 and 25-27 is inherent.

Support for the non-narrowing amendments to claims 42, 61, 63, and 65 is inherent.

Claim 45 has been amended to correct an obvious editing error. It is submitted that this amendment is non-narrowing.

Support for new claim 72 is inherent, for example, from the claim from which it depends (i.e., claim 27).

Support for the amendments for new claims 73 and 74 can be found in the specification, for example, on page 1, lines 14-17 and 27-33, bridging sentence, page 2, lines 1-9.

Double Patenting

Claims 1-23 and 69 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-26 and 71 of copending Application No. 10/666,098. It is said in the Office Action that although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of the claims overlap.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Upon an indication of otherwise allowable subject matter and in the event this rejection is maintained, Applicants will provide an appropriate response.

112 Rejections

Claims 1-23 and 69 stand rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

It is alleged in the Office Action that “REO” is not defined in the claims.

The term “REO” as used in the specification and claims is clearly defined on page 7, lines 17-23.

It is alleged in the Office Action that claim 21 appears to be outside the scope of claim 1 since it allows all the components to be present in an amount less than 80.

It is submitted that for both the claims pending at the time the Office Action was issued, and the current, amended claims, claim 21 is not outside the scope of the claim from which it depends (i.e., claim 1).

In summary, Applicant submits that the rejection of claims 1-23 and 69 under 35 USC § 112, second paragraph should be withdrawn. Also note that claims 4 and 5 have been canceled.

102 Rejections**-French Patent 1547989**

Claims 1-3, 6, 10-23, and 69 stand rejected under 35 USC § 102(b) as being anticipated by French Patent 1547989.

The rejection of claims 1-3, 6, 10-23, and 69 under 35 USC § 102(b) as being anticipated by '989 should be withdrawn.

Specifically, the Office Action alleges Examples I-V (in Table 1) of '989 falls squarely within the claimed ranges, and hence the claims are considered anticipated.

To facilitate prosecution, independent claims 1 and 39 have been amended to require at least one of ZrO_2 or HfO_2 . There is not teaching or suggestion in '989, for example, the glass required in claim 1 that includes at least one of ZrO_2 or HfO_2 .

Claims 2, 3, 6-23, and 69 depend directly or indirectly from claim 1. Claim 1 is patentable, for example, for the reasons given above. Therefore, claims 2, 3, 6-23, and 69 should also be patentable. Also note that claims 4 and 5 have been canceled.

Further, with regard to new claims 73 and 74, '989 requires at least 4 percent by weight SiO_2 . By contrast, claims 73 and 74 permit no more than 3 percent by weight SiO_2 . Moreover, there is not suggestion in '989 of not more than 3 percent by weight SiO_2 as required in claims 73 and 74.

In summary, the rejection of claims 1-3, 6, 10-23, and 69 under 35 USC § 102(b) as being anticipated by '989 should be withdrawn.

-U.S. Pat. No. 2,206,081 (Eberlin)

Claims 1-3, 6, 10-23, and 69 stand rejected under 35 USC § 102(b) as being anticipated by U.S. Pat. No. 2,206,081 (Eberlin)

The rejection of claims 1-3, 6, 10-23, and 69 under 35 USC § 102(b) as being anticipated by '081 (Eberlin) should be withdrawn.

Specifically, the Office Action alleges Example VII falls squarely within the ranges of the claims, and hence the claims are considered anticipated.

'081 (Eberlin) reports glass including as its principal components (i.e., at least 90 percent by weight) Ca_2O_3 , Ta_2O_5 , ThO_2 , and B_2O_3 . Nine specific formulations are listed.

Independent claims 1 and 39, as amended, each require a glass collectively comprising at least 80 percent by weight of (i) at least one of Nb_2O_5 or Ta_2O_5 , (ii) at least one of ZrO_2 or HfO_2 , and (iii) at least one of Al_2O_3 or REO , and the glass containing not more than 20 percent by weight collectively As_2O_3 , B_2O_3 , GeO_2 , P_2O_5 , SiO_2 , TeO_2 , and V_2O_5 , with the proviso that the glass does not comprise 35.73 percent by weight Al_2O_3 , 42.17 percent by weight La_2O_3 , 17.1 percent by weight ZrO_2 , and 5 percent by weight of one of Nb_2O_5 or Ta_2O_5 , based on the total weight of the glass.

There is no specific teaching or suggestion in '081 (Eberlin), however, of such a composition. Moreover, none of the specific examples (i.e., Examples I-IX) collectively have at least 80 percent by weight of the specified oxides as required in Applicant's claim.

Claims 2, 3, 6-23, and 69 depend directly or indirectly from claim 1. Claim 1 is patentable, for example, for the reasons given above. Therefore, claims 2, 3, 6-23, and 69 should also be patentable. Also note that claims 4 and 5 have been canceled.

Further, with regard to new claims 73 and 74, there is no specific teaching or suggestion in '081 (Eberlin) of the glass claimed in claims 73 and 74.

In summary, the rejection of claims 1-3, 6, 10-23, and 69 under 35 USC § 102(b) as being anticipated by '081 (Eberlin) should be withdrawn.

-U.S. Pat. No. 3,754,978 (Elmer et al.)

Claims 1-3, 6, 10-23, and 69 stand rejected under 35 USC § 102(b) as being anticipated by U.S. Pat. No. 3,754,978 (Elmer et al.).

The rejection of claims 1-3, 6, 10-23, and 69 under 35 USC § 102(b) as being anticipated by '978 (Elmer et al.) should be withdrawn.

Specifically, the Office Action alleges Examples 9 and 10 fall squarely within the claimed ranges, and hence the claims are considered anticipated.

'978 (Elmer et al.) reports a devitrification-resistant glaze for high-silica glasses, particularly effective in inhibiting surface devitrification induced by contact with food-ash at

elevated temperatures, formed from a coating consisting essentially, in weight percent, of about 25-85 percent Al_2O_3 and 15-75 percent ZrO_2 , and optionally containing up to about 10 percent Ta_2O_5 . The coating is preferably applied in the form of an aqueous slurry which is dried and fired to produce a vitreous glaze.

Independent claims 1 and 39, as amended, each require a glass collectively comprising at least 80 percent by weight of (i) at least one of Nb_2O_5 or Ta_2O_5 , (ii) at least one of ZrO_2 or HfO_2 , and (iii) at least one of Al_2O_3 or REO, and the glass containing not more than 20 percent by weight collectively As_2O_3 , B_2O_3 , GeO_2 , P_2O_5 , SiO_2 , TeO_2 , and V_2O_5 , with the proviso that the glass does not comprise 35.73 percent by weight Al_2O_3 , 42.17 percent by weight La_2O_3 , 17.1 percent by weight ZrO_2 , and 5 percent by weight of one of Nb_2O_5 or Ta_2O_5 , based on the total weight of the glass.

The “glaze” referred to in ‘978 (Elmer et al.) formed from a coating having a composition about 25-85 by weight Al_2O_3 , 15-75 percent by weight ZrO_2 , and optionally up to 10 percent by weight Ta_2O_5 contains significantly more than 20 percent by weight SiO_2 (even significantly more than 30 percent by weight SiO_2 required in original (as-filed) claims 1 and 39), and hence does not anticipate independent claim 1 and 39. That is, claims 1 and 39 can contain no more than 20 percent by weight SiO_2 .

The ‘978 (Elmer et al.) glaze that contains the Al_2O_3 , ZrO_2 , and optionally Ta_2O_5 is made by reacting the Al_2O_3 , ZrO_2 , and optional Ta_2O_5 with high silica glass (see, e.g., col. 2, lines 5-10, 17-22, and 29-32; col. 3, lines 1-3; and col. 4, lines 4-6 and 10-17). The examples of “high silica” glasses listed in ‘978 (Elmer et al.) are fused silica (understood to be 100% silica) and a glass that is 96 percent by weight SiO_2 (see, e.g., col. 3, lines 1-3 and col. 4, lines 18-22). It is submitted that one of ordinary skill in the art understands that when the Al_2O_3 , ZrO_2 , and optional Ta_2O_5 react with the SiO_2 (silica), the resulting material (i.e., the glaze) will contain SiO_2 . Further, it is submitted that the amount of SiO_2 , will be significantly more than 20 percent by weight. It is submitted that the reactions will be the lowest melting point for the materials on the applicable phase diagram. For example, for SiO_2 , Al_2O_3 , and ZrO_2 , the lowest melting point contains significantly more than 20 percent by weight SiO_2 (see enclosed SiO_2 - Al_2O_3 - ZrO_2 phase diagram (Fig. 771)). For example, for SiO_2 and Ta_2O_5 , the lowest melting point contains

significantly more than 20 percent by weight SiO_2 (see enclosed $\text{SiO}_2\text{-Ta}_2\text{O}_5$ phase diagram (Fig. 4447)).

Claims 2, 3, 6-23, and 69 depend directly or indirectly from claim 1. Claim 1 is patentable, for example, for the reasons given above. Therefore, claims 2, 3, 6-23, and 69 should also be patentable. Also note that claims 4 and 5 have been canceled.

Further, with regard to new claims 73 and 74, the claim glass can contain no more than 3 percent by weight SiO_2 . As discussed above, '978 (Elmer et al.) requires teaches significantly more SiO_2 .

In summary, the rejection of claims 1-3, 6, 10-23, and 69 under 35 USC § 102(b) as being anticipated by '978 (Elmer et al.) should be withdrawn.

Information Disclosure Statements

It is alleged in the Office Action:

The information disclosure statements filed 9/30/05, 7/6/05, 4/5/05, 3/8/05, 2/18/05, 1/20/05, 12/08/04, 10/29/04, 8/16/04, 8/12/04, 6/15/04 fail to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because it does not disclose the relevance of the art to the elected invention. Due to the large volume references, applicant is required to point to any reference and relevant portion to the elected invention, See MPEP 609 (a) 3. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

It is submitted that the instant Office Action fails to provide proper basis for the alleged requirement that Applicants point to any reference or portion of reference having particular relevance to the elected invention in this application. The last paragraph of MPEP 609 A(3) states:

Although a concise explanation of the relevance of the information is not required for English language information, applicants are encouraged to provide a concise explanation of why the English-language information is being submitted and how it is understood to be relevant. Concise explanations (especially those which point out the relevant pages and lines) are helpful to the Office, particularly where documents are lengthy and complex and applicant is aware of a section that is highly relevant to patentability or where a large number of documents are submitted and applicant is aware that one or more are highly relevant to patentability.

Clearly there is no requirement that Applicants point to any reference or portion of reference having particular relevance to the elected invention in this application. Hence, Applicants again

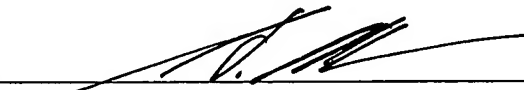
respectfully request the Examiner initial, sign, and return to the undersigned the PTO-1449 forms included with the Information Disclosure Statements bearing Certificate of Mailing or Transmission dates of 09/30/05, 07/06/05, 04/05/05, 03/08/05, 02/18/05, 01/20/05, 12/08/04, 10/26/04, 08/10/04, 08/11/04, 06/10/04, and 06/09/04.

In view of the above, it is submitted that the application is in condition for allowance.
Reconsideration of the application is requested.

Allowance of the pending claims, as amended, at an early date is solicited.

Respectfully submitted,

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Date

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